ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
REGULATORY CONTACT RECORD

Date: April 12, 2001, 1:00-4:30 at RFETS, B115

Site Contact(s):
KH: Lane Butler, Lee Norland, Annette Primrose, Laura Brooks, Dave Shelton, Dyan Foss, Steve Nesta, John Corsi
RMRS: Marla Broussard, Jim Moore
DOE: Reg Tyler, Norma Castaneda, Scott Surovchak

Regulatory Contact(s):
CDPHE: Steve Gundersen, Carl Spreng, Dave Kruchek, Elizabeth Pottorff, Rich Horstmann
EPA: Tim Rehder, Gary Kleeman, Jean Lillich
USFWS: Mark Sattleberg

Purpose of contact: This meeting provided the status of ongoing ER projects. In addition, we discussed upcoming issues and the proposed accelerated scope for fiscal year 2002. The meeting Agenda and handouts are attached.

Discussion:
B111 PAC/96 HRR – Carl Spreng brought a letter to the meeting that approved the No Further Action (NFA) proposed at B111 PAC. Tim Rehder signed the letter at the meeting. No copies were obtained.

The status of the Historical Release Report (HRR) review process was discussed with emphasis on the backlog of older no further action recommendations contained in the 12 quarterly updates to the HRR and the 1996 HRR Update. The agencies agreed to apply their best efforts to review these HRR updates by the end of this fiscal year.

The DOE response to the CDPHE Buffer Zone Contamination Review will be published in the 2001 HRR Update. In the interim, DOE will forward the document to CDPHE and EPA. CDPHE and EPA want resolution of these issues prior to issuing the HRR. In addition, the Site needs to provide a response to the last e-mail message from EPA on the subject of the circular features.

Soil Management RSOP – Scope of the RSOP was provided along with clarification between the Soil Management and Soil Remediation RSOPs. The Soil Management RSOP limitations were discussed; this decision document does not apply to accelerated action soil, is not a remedial decision document and does not affect the RFCA action levels. The details of what options were available for soil based on comparison to background level, regulatory levels and RFCA action levels were reviewed. No major disconnects were identified. The Soil Management RSOP will be released for informal public comment on April 17th, and the formal public comment period is expected to start one week later.

IA SAP Status – The IA SAP was revised to incorporate Agency comments and was sent out for approval. Carl Spreng did not get a copy of Appendix J. The risk

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assessment methodology is still an issue, particularly the size of the Buffer Zone exposure unit. Concurrence needs to be obtained on this subject. This subject does not require quick resolution because implementation is many years off. However, until this issue is resolved, sampling of the white spaces in the Buffer Zone will be delayed because the sample interval will depend on the size of the exposure unit. The RSAL working group is expected to help resolve this issue.

CDPHE is reviewing the IA SAP comment responses now. Carl Spreng took the action to talk to Diane Niedzwiecki about the exposure unit issue. He expects to propose an exposure unit size by the end of May.

The Buffer Zone SAP will be similar to the IA SAP. It will have the same DQOs and methodologies.

The issue was raised as to whether the Comprehensive Risk Assessment contains an Ecological Risk Assessment. This will be determined and the information provided at a later date. However, an ecological risk assessment for the Walnut and Woman Creek drainages as part of the OU5 and OU6 RIs. Tim Rehder requested a meeting with Susan (? Of EPA) and Dale Hoff (EPA) to evaluate these 96 reports with regards to the new EPA guidelines. A meeting will be scheduled within the next month and include the USF&W Service.

ER RSOP Status – A working draft was sent out for review and discussion on 4/6/01. New covers with the correct title were provided at this meeting. The confusion surrounding the two RSOPs was discussed. For this reason, the ER RSOP was renamed the Soil Remediation RSOP because this document does not address all ER actions, only the soil remediation actions. While the title is similar to the Soil Management RSOP, it is expected that the confusion can be resolved.

Since there is only one remaining groundwater action, it was not necessary to include groundwater actions in the RSOP. Steve Gunderson stated that he wondered why we included in the first place.

The Soil Remediation RSOP includes routine actions, and does include the OPWL. These remediation actions are expected to be primarily excavate the contaminated soil and ship the waste offsite. The only onsite treatment anticipated is for soils that must be treated to ship, such as those dripping in solvents. The Soil Remediation RSOP is designed to be coupled with real time characterization as described in the IA SAP. Once remediation starts, it won't stop until the Site is remediated.

There was considerable discussion about the OPWL and whether it fit under the RSOP approach. Also there was a discussion on adding a section on Stewardship Considerations to the RSOP. While this section would allow addressing stakeholder concerns up front, it can not be drafted at this time because issues such as leaving deep or inaccessible (residual contamination) have not yet been resolved. In addition, the management actions that may be employed for residual contamination will not be addressed as part of the RSOP. Therefore, it may not be appropriate to have a Stewardship section in the RSOP. Perhaps a pointer should be added to the decision document stating where stewardship issues will be addressed.

The question was raised as to why an RSOP was required for ER actions. Specifically, to eliminate the need for preparing and reviewing 50 separate decision documents. This should be discussed at the next D&D/ER meeting (Pizza Meeting). A 2-3 page fact sheet should be developed. Within the next 2-3 weeks, a working group meeting will be set up to review this fact sheet with a goal of getting it out to the public in the next month.

Public Status Meetings – Steve Gunderson pointed out that in the public's mind, RSALs equal ER. There is a need to get additional information out as soon as possible on other topics.

At the upcoming meeting the following 3 topics will be discussed: 1) Soil Management RSOP, 2) ER Overview; 3) Land Configuration. The EPA stated that they have no hot button issues on any of these. CDPHE stated that there was a delicate balance at the State on the Soil Management RSOP.

Tim Rehder did not like the idea of returning soils greater than Tier 1 to the ground. However, the Soil Management RSOP is intended to be used for maintenance actions such as water line repairs, not for remedial actions. The RSOP approach is better than the present practice of removing and managing soils, then backfilling area with clean dirt that then becomes contaminated. This is a waste of money. Also, investigative derived material should be handled as part of the remedial action, not separately as part of the characterization activity. The handout should be revised to state containerize and manage rather than manage per ARARs. The Tier 2 options should be repeated for the Tier 1 removals. It was clarified that the Agencies will be notified only if Tier 1 action levels are exceeded. Otherwise, notification will be provided as part of the HRR.

The Land Configuration Study will be presented because of the level of Stakeholder interest. The presentation slides will be provided by COB Monday April 16th.

The graphic showing public involvement was discussed at length. The start of informal public review will vary by document with DOPs starting early, and RSOPs starting after the first round of Agency comments. The interaction between the public and Site needs to be clarified. Overall, the graphic did not indicate how the interface occurred. It will be revised.

903 Pad Remediation Approach – Currently the Site is investigating vacuum trucks to minimize the collateral damage associated with remediating this large of an area. The trucks are expected to remove only the contaminated soils and leave some of the root zones, encouraging faster revegetation of the disturbed area. The innovative technology is similar in concept but not in the approach as to that used at Idaho. There is no agitation, and the dust is controlled. A demonstration is starting offsite, although on the Rocky Flats Alluvium. The approach will be tested both on flat and sloping ground and will occur in two phases. Phase 1 is a small-scale test to see if the technique works. Phase 2 will be a full size mock-up. If successful, a Phase 3 pilot in the Americium Zone may be performed to see if the technique works on radiologically contaminated soils. Benefits are a decrease in the amount of dust generated over use of scrapers, and the potential to keep some vegetation through remediation.

The potential was discussed of remediating the soils under the 903 Pad (IHSS 112) using the Soil Remediation RSOP. A PAM would be developed for remediation of IHSS 155 as this would not be a routine soil excavation. By splitting the projects, initiating of Pad remediation could begin earlier. The Americium Zone remediation would follow, but overlap the 903 Pad remedial action. There is no anticipated change in the completion date for the remedial action. Thermal desorption is still an option for remediation of soils under the 903 Pad. If remediation begins early, consideration must be given to not mobilizing the groundwater plume under the Pad. However, it was noted that the source of the plume would be removed in the remedial action. Both Agencies believed that there was merit in considering this approach. However, the RSALs need to be established prior to writing the PAM.

Solar Ponds Plume Treatment System Discussion

Nitrate and uranium concentration graphs were distributed showing that stream standards continue to be met in North Walnut Creek. In addition, the discharge gallery concentrations are declining and now match the concentrations seen at the influent to the treatment cell. This indicates that the downgradient part of the plume near the ITS Pumphouse, that probably resulted from the storage of groundwater in the sump, has drained to the point where it is no longer a major contributor to groundwater flow at the discharge gallery.

A flow chart showing the decision process for continued operations at the Solar Ponds Plume system was distributed and discussed. The flow chart demonstrates the decisions used to determine if actions are required to continue to meet the stream standards currently and at closure. The flow chart will be modified to show that the current and future decision-making processes are separated. The decision flow chart should be documented formally in a document.

It was noted that the system quickly responds to precipitation events, and that the heavy snow on Wednesday April 11th already resulted in flow into the system. CDPHE commented that we need to break out the different components flowing into the system. They also stated that quantitative analysis such as a spreadsheet or similar item should be used to predict behavior, such as the spreadsheet loading analysis already provided by Rich Horstmann. It was noted in the meeting that the analysis may not be meaningful until the results of the water balance are received. The system inputs should be identified to determine what the answer will be based on a model or conceptual model.

Steve Gunderson commented that it appears that we will meet nitrate standards at closure, but what about the uranium plume? It was pointed out that one of the decision points is to monitor the uranium activities at the system influent. A rise in uranium activities may signal the need to take an action as it may signal movement in the uranium plume.

The empirical data on the uranium part of the plume indicates that the plume is not moving, because the highest concentrations are still mainly beneath the Solar Ponds. With the removal of sludge and water, and therefore the contaminant source and hydraulic head, from the ponds, the plume is expected to move even less. The model performed for the Solar Ponds Plume project indicated that the uranium plume might reach surface water in about 100 years. However, the model was very conservative. In

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addition, the model did not accurately reflect reality as part of the plume area is drained by slotted pipe, which is difficult to incorporate into a hydrogeologic model.

The question was asked if more wells would be added to the area to determine the input from groundwater. The Site responded that these were not necessary. Fluctuating levels in the collection trench indicated that the trench is losing water. The same concentrations at the discharge gallery and at the system influent indicate that the bypassed water is exiting the system at the discharge gallery. Additional studies will not lead to a solution to the problem that are more appropriate than those previously proposed. The most appropriate action is to continue to monitor the impacts to surface water to determine if additional actions are required.

It was discussed that the Quarterly Plume Reports will be replaced by an annual report because most of the plume systems have gone to semi-annual sampling. However, quarterly updates will still be provided on the Solar Ponds Plume System due to the level of interest in this project.

Potential Accelerated Actions for FY02 – Handout was provided with the potential acceleration candidates. All acceleration candidates depend on receiving additional funding next year.

Alternatives analysis for the original landfill will be completed to determine if the capping approach or another approach is appropriate to remediate this site. This analysis has been initiated. It was discussed that the landfill was more of a dump, and that there were no real records of what was placed in there. While sampling during the OU5 RFI/RI did not reveal any high levels of contamination, it was noted that there is inherent difficulty in sampling a landfill.

Slab removal is proposed for next year. The remediation subcontractor will be on board and the slabs, along with any associated under building contamination, will be a good place to begin. The 123 and 889 slabs will be the first targets, followed by B886, if the slab is available, and 779. It was noted the 779 slab is being used by the B776 team for waste staging.

Extension of the groundwater treatability study is planned if DOE EM50 funds are received. The preliminary targets identified are areas that can be easily accessed, and that are in separate settings. However, it was noted that these are not considered remedial actions and that none of the target areas require a remedial action. The group agreed that the existing treatability study work plan could be amended to include the additional scope. The targets being considered are:

- Ryan's Pit: prior remedial action site with increased groundwater contaminant concentrations. Carl Spreng noted that the contaminants left in-place exceed the Tier 1 concentrations developed after completion of this remedial action.
- East Trenches Plume Zone of Sacrifice: The area around well 23296 has historically contained higher contaminant concentrations. Gary Kleeman noted that he has recommended this location for a test for years.
- UBC Plume: a very small, low-level plume is present and associated with B123 slab.

- PU&D Yard Plume secondary location: The area in the plume downgradient of the source area that shows higher levels of contaminants. As previous investigations did not determine a source of contamination in the area, it is expected that this is a diffuse rather than a discrete source. Elizabeth Pottorff stated that we could tie into Steve Singer's investigation of the area. The Site agreed that this was planned.
- One other location: EPA requested either the OU1 Collection Well area or the Mound Plume Zone of Sacrifice. CDPHE recommended IHSS 118.1, however, it was noted that no one recommended this as a demonstration site because of the proximity to buildings and due to the potential to generated byproducts that were more harmful than the original contaminants. If the OU1 Collection Well area is chosen, the group agreed that it would be a treatability study and not require another modification to the OU1 CAD/ROD.

The ash pits were proposed as a potential no further action site based on their location in sensitive Preble's Mouse habitat, the lack of an associated groundwater plume, and the composition of the ash and the associated oxidized uranium. One to two feet of soil already cover the ash pits. CDPHE felt that this was worth considering and should be discussed with the public as an example of the need to discuss prioritization of limited funds. A tour with selected groups would be useful, including the US Fish and Wildlife Service.

The EPA felt that the need to discuss the ash pit area, particularly in regard to the to be established subsurface remedial action levels. He expects that this will be a hard sell with regulators and the public because of the Tier 1 exceedances adjacent to the stream. Elizabeth Pottorff said that because there is no groundwater plume, we should get Jim Bell to explain the geochemistry and what is likely to happen in the plume over time. EPA suggested that instead of remediating the entire ash pits, that selected remediation of the identified exceedances might be considered. Again, the need to obtain updated action levels for subsurface soils was mentioned. EPA is not enamored of the idea, but will consider this approach enough to take the tour with USF&WS.

Trench 7 Evapotranspiration Cover was proposed for the single remaining east trench that had Tier 1 exceedances. This area of the plant is generally dry and there is no associated groundwater plume. It was pointed out that on the provided map, all three boreholes within the trench had Tier 1 exceedances, including the borehole that was not flagged. The evapotranspiration cover is planned to be used at the other landfills on Site. This project could serve as a demonstration project, giving time to evaluate the effectiveness of these covers on Site. The size of the cover would be about 250 feet by 250 feet and would include the east trenches to the north and south. Tim Rehder was not excited about the idea. Steve Gunderson was willing to listen but wanted all data from the area.

Data Management System Overview – This system will be used to provide real time information for remediation guidance and confirmation of remediation actions. The ER data management system will interface with SWD. However, data will be made available on a real time basis through a GIS interface. The completed system will incorporate statistics and the data quality objectives developed as part of the IA SAP. There will be a cost benefit module that will allow correlation between collection of additional samples and the increase in the confidence level.

Waterstone is doing the work. This will be a complex system with numerous modules. The data will be available to EPA and CDPHE in their own offices, however, limitations from the Site firewall and the resulting data transfer limits may limit data accessibility and speed of operations. Therefore, the Agencies will be provided onsite offices and computers for their own use. These are expected to provide sufficient support so that almost immediate concurrence with remediation decision s can be obtained.

EPA requested that information be loaded onto their work computers along with periodic updates. They do not wish to spend 5 days per week at the Site. CDPHE asked if this was the same approach as Smart Sampling. This system uses the same concepts, but is smarter.

Building 123 and 886 UBC Sampling Summary – Very briefly discussed as on the attached handout. The sampling is complete and no contamination was found in the soils. The Building 886 slab was contaminated as expected. The draft report is due out in about a month. Lessons learned from this project were applied to the Building 771 Project.

771 Sampling Status – One hole started, about 7 inches of concrete and 4 inches of gravel encountered. First soil interval sampled, and VOA collected from second interval. Shutdown by weather delay and holiday, but a plug left in the hole as a contingency against groundwater incursion. No groundwater seen as of yet.

Actions

Lane Butler – Obtain a copy of B111 NFA letter.

Lee Norland –
- Ensure that the Buffer Zone Contamination Review response is provided to EPA and CDPHE and included in the 2001 HRR Update.
- Provide a response to the last EPA e-mail on the circular features.
- Determine if an ecological risk assessment is part of the Comprehensive Risk Assessment.
- Provide a copy of IASAP Appendix J to Carl Spreng
- Set up meeting to discuss the ecological risk assessment within the next month.
- Set up a meeting with Gary Kleeman and Carl Spreng to review and discuss the fact sheet for the Soil Remediation RSOP.

Marla Broussard –
- Provide presentation for Land Configuration Study to Regulators by COB, Monday, April 16th.
- Revise Soil Management RSOP to change manage per ARARs to containerize and manage per ARARs (or similar language)

Annette Primrose – USF&WS
- Set up tour of Trench 7 and Ash Pits areas: EPA, CDPHE,
- Separate current and future decisions on the Solar Ponds Plume Flow Chart. (completed 4/12)
- Provide uranium information for all ash pit locations and depths where there was an exceedance.
- Provide all available information from the Trench 7 area.
- Formalize the Solar Ponds Plume Decision Tree into the RIDD, IMP or another formal document when approved.

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